APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/901,520	07/09/2001	David W. Smith	2000.054300	4919

23720	7590	10/17/2005

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EXAMINER
MOORTHY, ARAVIND K

ART UNIT	PAPER NUMBER
2131	

DATE MAILED: 10/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/901,520	SMITH ET AL.
	Examiner	Art Unit	
	Aravind K. Moorthy	2131	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 July 2005*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 July 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All　b)☐ Some * c)☐ None of:

　　　1.☐ Certified copies of the priority documents have been received.

　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
　　Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____ .
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

DETAILED ACTION

1. This is in response to the arguments filed on 29 July 2005.

2. Claims 1-25 are pending in the application.

3. Claims 1-25 have been rejected.

Response to Arguments

4. Applicant's arguments filed 29 July 2005 have been fully considered but they are not

persuasive.

On page 4, the applicant argues that Quigley et al does not describe or suggest any

particular modes of operation for the subscriber cable modem.

The examiner respectfully disagrees. Quigley et al does teach both modes of operation

for the subscriber cable modem. Quigley et al teaches a standard mode of operation and a

privileged mode of operation.

On page 4, the applicant argues that Quigley et al fails to teach or suggest a standard

mode driver to extract encrypted data from a digital received signal and a privileged mode driver

for decrypting encrypted data, which includes one or more control codes, as set forth in

independent claim 1.

The examiner respectfully disagrees. Quigley et al teaches that the encryption is unique

for every subscriber. Encrypted data is forwarded to a downstream processor. If the cable

modem represents a subscriber then the cable modem is able to operate in privileged mode.

Once in privileged mode, the cable modem is able to decrypt the encrypted data.

On page 4, the applicant argues that Quigley et al also fails to teach or suggest receiving

encrypted data over a communications channel in a standard processing mode of a processing

unit and transitioning the processing unit into a privileged mode, as set forth in independent claim 15.

The examiner respectfully disagrees. Quigley et al teaches that the encryption is unique for every subscriber. Encrypted data is forwarded to a downstream processor. If the cable modem represents a subscriber then the cable modem is then transitioned to operate in privileged mode. Once in privileged mode, the cable modem is able to decrypt the encrypted data.

On page 4, the applicant argues that Quigley et al fails to teach or suggest decrypting encrypted data in a privileged processing mode or extracting control codes from the decrypted data in the privileged mode, as set forth in independent claim 15.

The examiner respectfully disagrees. As discussed above, if the cable modem represents a subscriber the cable modem will be able to operate in privileged mode. The data and the control data are parsed in the downstream processor. If the cable mode represents a subscriber, the cable modem is able to decrypt the data.

On page 5, the applicant argues that Weidner to teach passing pointers indicating locations of encrypted data in memory, Bestock to teach extracting user data from decrypted data, and Albrecht to teach a BIOS memory. The applicant argues that none of the secondary references remedy the fundamental deficiencies of the primary reference. The applicant argues that the prior art of record also fails to provide any suggestion or motivation to modify the prior art to arrive at the applicants' claimed invention.

The examiner respectfully disagrees. As described above, the primary references contain no deficiencies. The only deficiencies that the Weidner and Bestock reference were used for were the limitations of passing pointers indicating locations of encrypted data in memory,

extracting user data from decrypted data, and a BIOS memory. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

On page 5, the applicant argues that the primary reference teaches away from the present invention. The applicant argues that Quigley et al teaches that the subscriber cable modem extracts encrypted data and decrypts the data while in the same operating mode.

The examiner respectfully disagrees. As shown above, the examiner has pointed out the two modes of operation. Therefore, Quigley et al does not teach away from the reference. Quigley et al does not teach that the subscriber cable modem extracts encrypted data and decrypts the data while in the same operating mode.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 3-5, 9-12, 15, 17, 18, 20-22 and 25 are rejected under 35 U.S.C. 102(e) as being anticipated by Quigley et al U.S. Patent No. 6,650,624 B1.

As to claims 1 and 15, Quigley et al discloses a communications system, comprising:

a physical layer hardware unit adapted to communicate data over a communications channel in accordance with assigned transmission parameters, the physical layer hardware unit being adapted to receive an incoming signal over the communications channel and sample the incoming signal to generate a digital received signal [column 24 line 54 to column 25 line 6]; and

a processing unit adapted to execute a standard mode driver in a standard mode of operation and a privileged mode driver in a privileged mode of operation, wherein the standard mode driver includes program instructions adapted to extract encrypted data from the digital received signal and pass the encrypted data to the privileged mode driver, and the privileged mode driver includes program instructions adapted to decrypt the encrypted data to generate decrypted data including control codes and transfer the control codes to the physical layer hardware unit, the physical layer hardware being adapted to configure its assigned transmission parameters based on the control codes [column 24 line 54 to column 25 line 6].

As to claim 3, Quigley et al discloses that the privileged mode of operation comprises a system management mode of operation [column 26, lines 42-51].

As to claim 4 and 17, Quigley et al discloses that the standard mode driver includes program instructions adapted to issue a signal to the processing unit to initiate a change from the standard mode of operation to the privileged mode of operation [column 25, lines 29-36].

As to claims 5 and 18, Quigley et al discloses that the signal comprises a system management interrupt [column 14, lines 24-36].

As to claim 9, Quigley et al discloses that the privileged mode driver include program instructions adapted to encrypt the control codes and pass the encrypted control codes to the standard mode driver [column 24 line 54 to column 25 line 6]. Quigley et al discloses that the standard mode driver includes instructions adapted to send the encrypted control codes to the physical layer hardware unit [column 24 line 54 to column 25 line 6]. Quigley et al discloses that the physical layer hardware unit is adapted to decrypt the encrypted control codes to reconstruct the control codes [column 24 line 54 to column 25 line 6].

As to claim 10, Quigley et al discloses that the privileged mode driver includes instructions adapted to transfer the control codes directly to the physical layer hardware unit [column 25, lines 7-18].

As to claim 11, Quigley et al discloses that the processing unit comprises a computer [column 11, lines 16-25].

As to claim 12, Quigley et al discloses that the computer includes:

a processor complex adapted to execute the program instructions in the standard mode driver and the privileged mode driver [column 25, lines 19-35];

a bus coupled to the processor complex [column 25, lines 19-35]; and

an expansion card coupled to the bus, the expansion card including the

physical layer hardware [column 25, lines 19-35].

As to claim 20, Quigley et al discloses sending the control codes to a communications

device adapted to transmit the upstream signal in the privileged processing mode [column 26,

lines 17-42].

As to claim 21, Quigley et al discloses the method further comprising:

encrypting the control codes in the privileged processing mode [column 25

line 45 to column 26 line 16];

transitioning the processing unit into the standard processing mode

[column 25 line 45 to column 26 line 16]; and

sending the encrypted control codes to a physical layer device adapted to

transmit the upstream signal in the standard processing mode [column 25 line 45

to column 26 line 16].

As to claim 22, Quigley et al discloses the method further comprising:

decrypting the encrypted control codes in the physical layer device

[column 24 line 54 to column 25 line 6]; and

configuring the physical layer device based on the control codes [column

24 line 54 to column 25 line 6].

As to claim 25, Quigley et al discloses a modem, comprising:

means for receiving encrypted data over a communications channel in a

standard processing mode of a processing unit [column 24 line 54 to column 25

line 6];

means for transitioning the processing unit into a privileged processing

mode [column 24 line 54 to column 25 line 6];

means for decrypting the encrypted data in the privileged processing mode

[column 24 line 54 to column 25 line 6];

means for extracting control codes from the decrypted data in the

privileged processing mode [column 24 line 54 to column 25 line 6]; and

means for transmitting an upstream signal over the communications

channel based on transmission assignments defined by the control codes [column

25, lines 7-18].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 2 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Quigley

et al U.S. Patent No. 6,650,624 B1 as applied to claims 1 and 15 above, and further in view

of Fleming, III et al U.S. Patent No. 6,212,360 B1.

As to claims 2 and 16, Quigley et al does not teach that the control codes include at least

one of a power level assignment, a frequency assignment, and a time slot assignment.

Fleming, III et al teaches control codes that include at least one of a power level

assignment, a frequency assignment, and a tune slot assignment [column 11 line 60 to column 12

line 13].

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Quigley et al so that the control code would have been power level assignment.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Quigley et al by the teaching of Fleming, III et al because adjusting power in the modem it helps overcome rain fades in wireless or satellite systems [column 2, lines 39-46].

7. Claims 6 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Quigley et al U.S. Patent No. 6,650,624 B1 as applied to claims 1 and 15 above, and further in view of Weidner et al U.S. Patent No. 5,987,572.

As to claims 6 and 19, Quigley et al teaches that the processing unit includes a memory device adapted to store the encrypted data [column 25, lines 7-18].

Quigley et al does not teach that the standard mode driver includes program instructions adapted to pass a pointer indicating a location of the encrypted data within the memory device to the privileged mode driver.

Weidner et al teaches program instructions adapted to pass a pointer indicating a location of the encrypted data within the memory device to the privileged mode driver [column 4, lines 7-35].

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Quigley et al so that there would have been program instructions adapted to pass a pointer indicating a location of the encrypted data within the memory device to the privileged mode driver.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Quigley et al by the teaching of Weidner et al because it protects data communicated between the processor and the memory [column 2, lines 9-12].

8. Claims 7, 8, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Quigley et al U.S. Patent No. 6,650,624 B1 as applied to claims 1 and 15 above, and further in view of Bestock U.S. Patent No. 5,363,449.

As to claims 7, 8, 23 and 24, Quigley et al does not teach that the privileged mode driver includes program instructions adapted to extract user data from the decrypted data and pass the user data to the standard mode driver. Quigley et al does not teach that the processing unit includes a memory device adapted to store the user data. Quigley et al does not teach that the privileged mode driver includes program instructions adapted to pass a pointer indicating a location of the user data within the memory device to the standard mode driver.

Bestock teaches a privileged mode driver that includes program instructions adapted to extract user data from the decrypted data and pass the user data to the standard mode driver. Bestock teaches that the processing unit includes a memory device adapted to store the user data. Bestock teaches that the privileged mode driver includes program instructions adapted to pass a pointer indicating a location of the user data within the memory device to the standard mode driver [column 4, lines 6-66].

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Quigley et al so that a privileged mode driver would have included program instructions adapted to extract user data from the decrypted data and pass the user data to the standard mode driver. The processing unit would have included a

memory device adapted to store the user data. The privileged mode driver would have included program instructions adapted to pass a pointer indicating a location of the user data within the memory device to the standard mode driver.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Quigley et al by the teaching of Bestock because verification of a user is taking place on an ongoing basis [column 2, lines 9-28].

9.   Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Quigley et al U.S. Patent No. 6,650,624 B1 as applied to claim 1 above, and further in view of Albrecht et al U.S. Patent No. 6,510,521 B1.

As to claims 13 and 14, Quigley et al does not teach that the processing unit includes a system basic input output system (BIOS) memory adapted to store the privileged mode driver. Quigley et al does not teach that the processing unit is adapted to load the privileged mode driver from the system BIOS into a protected memory location during initialization of the computer.

Albrecht et al teaches that the processing unit includes a system basic input output system (BIOS) memory adapted to store the privileged mode driver. Albrecht et al teaches that the processing unit is adapted to load the privileged mode driver from the system BIOS into a protected memory location during initialization of the computer [column 4, lines 23-44].

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Quigley et al so that a system basic input output system (BIOS) memory would have been adapted to store the privileged mode driver. The processing unit would have been adapted to load the privileged mode driver from the system BIOS into a protected memory location during initialization of the computer.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Quigley et al by the teaching of Albrecht et al because it provides a more robust approach to preventing unauthorized access to non-volatile storage, in particular, an approach that does not rely on the access method not being known [column 1, lines 27-32].

Conclusion

10.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.
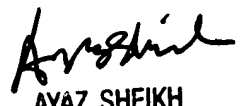
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aravind K. Moorthy whose telephone number is 571-272-3793. The examiner can normally be reached on Monday-Friday, 8:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz R. Sheikh can be reached on 571-272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Aravind K Moorthy
October 12, 2005

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